

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Clark T.-C. Nguyen, et al.

Group Art Unit:

Examiner:

Serial No.: 10/737,363

Filed: December 16, 2003

For: MICROMECHANICAL RESONATOR DEVICE AND  
METHOD OF MAKING A MICROMECHANICAL DEVICE

Attorney Docket No.: UOM 0285 PUSP

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
U.S. Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and § 1.97-1.98, the references listed and identified on the attached Forms PTO/SB08A and/or SB08B are being submitted herewith for consideration by the Examiner.

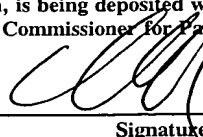
While this Statement is being filed in compliance with the duty of disclosure, citation of the attached references is not to be construed as an admission that any of the reference(s) are "material" as defined under 37 C.F.R. § 1.56(b).

**CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8**

I hereby certify that this paper, including all enclosures referred to herein, is being deposited with the United States Postal Service as first-class mail, postage pre-paid, in an envelope addressed to: Commissioner for Patents, U.S. Patent & Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 on:

March 25, 2004  
Date of Deposit


David R. Syrowik  
Name of Person Signing

  
Signature

If the filing date of this application is on or before June 30, 2003, a copy of each reference listed on the attached Forms PTO/SB08A and/or SB08B is included herewith. If this application was filed after June 30, 2003, copies of any cited U.S. patent/application references have not been included. Consideration and entry into the record of these references is respectfully requested.

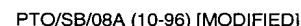
Respectfully submitted,

**Clark T.-C. Nguyen, et al.**

By:   
David R. Syrowik  
Reg. No. 27,956  
Attorney/Agent for Applicant

Date: March 24, 2004

**BROOKS KUSHMAN P.C.**  
1000 Town Center, 22nd Floor  
Southfield, MI 48075-1238  
Phone: 248-358-4400  
Fax: 248-358-3351



Approved for use through 10/31/99, OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Substitute for Form 1449B/PTO  <b>INFORMATION DISCLOSURE  STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>			<b>Complete if Known</b>		
			Application Number	10/737,363	
			Filing Date	December 16, 2003	
			First Named Inventor	Clark T.-C. Nguyen, et al.	
			Group Art Unit		
			Examiner Name		
Sheet	2	of	3	Attorney Docket Number	UOM 0285 PUSP

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		NGUYEN, CLARK, T.-C., Microelectromechanical Components For Miniaturized Low-Power Communications, Proceedings, 1999 IEEE MTT-S International Microwave Symposium RF MEMS Workshop, Anaheim, California, June 18, 1999, pp. 48-77	
		NGUYEN, CLARK, T.-C., Micromechanical Circuits For Communication Transceivers, Proceedings, 2000 Bipolar/BiCMOS Circuits and Technology Meeting (BCTM), Minneapolis, Minnesota, September 25-26, 2000, pp. 142-149	
		TANG, WILLIAM C., ET AL., Laterally Driven Polysilicon Resonant Microstructures, Sensors and Actuators, Vol. 20, 1989, Abstract only	
		NGUYEN, CLARK, T.-C., An Integrated CMOS Micromechanical Resonator High-Q Oscillator, IEEE Journal of Solid-State Circuits, Vol. 34, No. 4, April 1999, pp. 440-455	
		WANG, KUN, ET AL., High-Order Medium Frequency Micromechanical Electronic Filters, IEEE, Journal of Microelectromechanical Systems, Vol. 8, No. 4, December 1999, pp. 534-557	
		BANNON, FRANK D., ET AL., High-Q HF Microelectromechanical Filters, IEEE Journal of Solid-State Circuits, Vol. 35, No. 4, April 2000, pp. 512-526	
		LEE, SEUNGBAE, ET AL., A 10-MHz Micromechanical Resonator Pierce Reference Oscillator for Communications, Digest of Technical Papers, Transducers 2001, Munich, Germany, June 10-14, 2001, pp. 1094-1097	
		CLARK, JOHN R., ET AL., High-Q VHF Micromechanical Contour-Mode Disk Resonators, Technical Digest, IEEE Int. Electron Devices Meeting, (IEDM), San Francisco, California, December 11-13, 2000, pp. 493-496	
		WONG, ARK CHEW, ET AL., A Bonded Microplatform Technology for Modular Merging of RF MEMS and Transfer Circuits, Digest of Papers Int. Conf. on Solid-State Sensors and Actuators, Transducers 2001, June 10-14, 2001	
		ABDELMONEUM, MOHAMED A., ET AL., Stemless Wine-Glass-Mode Disk Micromechanical Resonators, Digest of Papers Int. Conference of Microelectromechanical Systems (MEMS 2003), January 2003, Kyoto, Japan, pp. 698-701,	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Unique citation designation number. <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

Substitute for Form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/737,363
				Filing Date	December 16, 2003
				First Named Inventor	Clark T.-C. Nguyen, et al.
				Group Art Unit	
				Examiner Name	
Sheet	3	of	3	Attorney Docket Number	UOM 0285 PUSP

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		HSU, WAN-THAI, ET AL., A Sub-Micron Capacitive-Gap Process For Multiple-Metal-Electrode Lateral Micromechanical Resonators, Technical Diges, IEEE Int. Micromechanical Systems Conf., Interlaken, Switzerland, January 21-25, 2001, pp. 349-352	
		WAKE, R. N., ET AL., Changes In The Natural Frequencies of Repeated Mode Pairs Induced By Cracks In A Vibrating Ring, IEEE Journal of Sound and Vibration, Vol. 214, No. 4, November 1998, pp. 761-770	
		DEMIRCI, MUSTAFA U., ET AL., Mechanically Corner-Coupled-Square Microresonator Array For Reduced Series Motional Resistance, Digest of Papers Int. Conf. on Solid-State Sensors and Actuators, Transducers 2003, June 8-12, 2003	
		CLARK, JOHN R., ET AL., High-Q UHF Micromechanical Radial-Contour Mode Disk Resonators, submitted for publication in IEEE Journal of Microelectromechanical Systems on April 29, 2003, pp. 1-10	
		FUJITA, T., ET AL., Disk-Shaped Bulk Micromachined Gyroscope With Vacuum Sealing, Sensors and Actuators, Vol. 82, May 2000, pp. 198-204	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Unique citation designation number. <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.